



Savannah Harbor Expansion Project

Frequently Asked Questions (FAQs)

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG.

July 23, 2014

- 1) **[New] The language of the Water Resources Reform and Development Act of 2014 raises the cost of the Savannah Harbor Expansion Project to \$706 million from \$652 million. Why the change in costs?**
 - **[New]** In 2012 the SHEP General Re-Evaluation Report and Chief's Report identified a total project cost of \$652 million. On large projects such as the Savannah Harbor Expansion, our protocol includes updating costs every two years. After completing a new cost assessment for 2014 we have estimated a new total project Cost of \$706 million.
 - **[New]** The updated cost assessment for the Savannah Harbor Expansion Project has calculated an increase in total project cost. There are four main factors contributing to the new total project cost: 1) Inflation since price levels listed in the 2012 report were established (higher labor rates, equipment costs), 2) increase in cost of fuel, 3) additional environmental monitoring due to construction delays and 4) design and construction costs above original estimates in 2012 - the most technically complex features were fully designed from 2012 to 2014. Rising fuel costs and inflation account for the largest percentage of the increase.
 - **[New]** As is standard practice, the cost estimate prepared for the 2012 General Re-Evaluation Report contained a 25 percent contingency factor. Since that time, the Corps has completed detailed designs on some of the features, reducing the level of uncertainty surrounding their construction cost. As a result, the overall contingency factor for the project has declined to 19 percent in the latest construction cost estimate. We are optimistic we can complete this project without using all of that contingency.
- 2) **[New] What are the important future milestone dates for the project?**
 - **[New]** With the passage of the Water Resources Reform and Development Act of 2014 (WRRDA 2014) we can now begin formal negotiations with our non-federal sponsor. Finalizing this agreement will allow the Corps of Engineers to begin construction of the project with non-federal funds while we await appropriations from Congress.
 - **[New]** Because we have used pre-existing project funds to develop contracts and engineering specifications, we will be able to seek construction bids sooner. Some aspects of the Savannah Harbor Expansion Project may begin in late 2014.
- 3) **[New] You recently closed portions of the New Savannah Bluff Lock & Dam to the public citing continuing deterioration of the downstream portion of the riverside lock wall and its foundation. With the lock in this condition, wouldn't it be wiser just to take out the New Savannah Bluff Lock & Dam instead of spending millions of dollars building a fish passage around it?**
 - **[New]** Over the decades since the lock and dam opened, local communities and industries have found uses for the pool formed by the dam. While the Corps of Engineers previously recommended removal of the New Savannah Bluff Lock & Dam, we recognize the communities' economic tie to the dam's pool.
- 4) **What are the major differences between the draft and final General Re-Evaluation Report and draft and final Environmental Impact Statement for the Savannah Harbor Expansion Project (SHEP)?**
 - The Corps of Engineers concluded that dredging the Savannah harbor to a depth of 47 feet below mean low water will bring the greatest economic benefits to the nation. We concluded that the 47 foot depth reached the best balance between enhancing the national economy and mitigating for impacts to the environment.
 - We increased some of the environmental mitigation features of the plan in close coordination with the Fish and

Wildlife Service, National Marine Fisheries Service and the Environmental Protection Agency plus the City of Savannah.

- Upon closer study, the net economic benefits to the nation increased to an estimated \$174 million per year with a benefit-to-cost ratio increase to 5.5 to 1.

5) You have selected 47 feet as the final depth of the Savannah Harbor Expansion Project (SHEP) but in the draft report you indicated that you also studied 48 feet. Why 47 feet and not 48 feet?

- We studied depths from the current depth of 42 feet below mean low water through 48 feet. We compared construction costs, environmental mitigation costs, and annual operations costs and compared them to the overall economic benefits to the nation. We also considered requests from three federal cooperating agencies concerned with environmental protection. We concluded that 47 feet reached the best balance between enhancing the national economy and mitigating for impacts to the environment.
- The chosen depth of 47 feet gives the greatest net economic benefit to the nation. We estimate that deepening to 47 feet will benefit the nation \$174 million per year, averaged over the 50 years life-analysis of the project.
- Dredging to 47 feet will meet the requirements of the vessels expected to call on the Savannah harbor.
- A deeper authorized depth poses additional risks to the environment and additional costs to mitigate for those risks. We believe we achieved the right balance with the chosen depth of 47 feet.

6) Earlier you noted that the local sponsor, the Georgia Department of Transportation through its agent the Georgia Ports Authority, would request a locally preferred plan of a 48 foot depth for the Savannah Harbor Expansion Project. You noted that Georgia would pay all the additional costs to dredge the extra foot and cover the additional maintenance costs. What has become of the locally preferred plan and why did it change?

- The Georgia Ports Authority, through the non-federal sponsor, the Georgia Department of Transportation, withdrew a request for a locally preferred plan.
- We worked closely with the Georgia Ports Authority throughout this study.
- The Corps of Engineers and the Georgia Ports Authority believe we achieved the right balance among the benefits to the nation, the costs to the United States and Georgia taxpayers, and mitigation for environmental impacts.

7) Why has the benefit to cost ratio improved since the draft report?

- The benefit-to-cost ratio (BCR) improved between the time of the draft General Re-Evaluation Report (GRR) and the final GRR because we updated much of the data using the latest estimates on costs, especially fuel costs, and an updated projection on world trade patterns. With deepening the expected increase in trade will be able to move on fewer, but larger ships, thus saving fuel. With deepening there will be no need for ships to wait for favorable tides, thus also saving fuel.
- The ever-increasing fuel costs plus new information on the growing fuel efficiency of the future shipping fleet made a significant difference in our report.
- The improved BCR indicates that deepening the Savannah harbor is even more beneficial to the American public than previously stated.

8) Why is the U.S. Army Corps of Engineers even involved in a navigation plan like the Savannah Harbor Expansion Project?

- Congress charged the U.S. Army Corps of Engineers (USACE) with the responsibility for improving harbors under the Rivers and Harbors Act of 1899. That responsibility remains with the Corps of Engineers. As part of this mission, we must ensure that commerce has safe and adequate access to ports throughout the USA.
- Congress provides funding to the Corps to study potential harbor improvements around the country. These studies provide Congress with information to decide which projects are justified and would best benefit the nation.
- The Savannah District is the long-term operations and maintenance agent for the harbor. The district routinely dredges the harbor and shipping channel to its currently authorized depth of 42 feet.

- The non-federal sponsor for the project, the Georgia Department of Transportation, participates in the project by sharing the costs of deepening the harbor.

9) What is the Corps of Engineers current role in the expansion project?

- Congress charged the Corps of Engineers with evaluating all practical expansion alternatives. We began with looking at alternatives to deepening the harbor. We found that none of those preliminary measures would provide the same level of transportation efficiencies as would deepening to the Garden City Terminal. The Corps analyzed each harbor deepening alternative—dredging to depths from 42 to 48 feet—in detail using computer models of water and wave actions, computer-simulated ship movements, and analyzed engineering and economic data as part of the Final General Re-evaluation Report (GRR).
- In addition, the Savannah District prepared an Environmental Impact Statement (EIS) that describes the impacts of each depth alternative. By law, we also provided a mitigation plan for the significant environmental impacts. In other words, the Corps identified what steps must be taken to avoid impacts, reduce impacts and replace/compensate for impacts to the environment at each alternative dredging depth.

10) What was the outcome of the study?

- **[Updated]** The study reflects an extensive analysis of the engineering alternatives, environmental impacts, and economic costs and benefits of deepening the Savannah Harbor and shipping channel. It details our recommendations and includes the selected alternative of -47 feet, that depth which provides the greatest benefits to the nation. The final General Re-Evaluation Report and Environmental Impact Statement were accepted by three other federal agencies and withstood the scrutiny of a formal independent external peer review. The Corps' Chief of Engineers issued a "Record of Decision," a formal document that announces the selected depth that is supported by the overall analysis in 2012. The Record of Decision was signed by Assistant Secretary of the Army (Civil Works) Jo-Ellen Darcy, Oct. 26, 2012.

11) Did the public have the opportunity to review the draft report and the final one?

- Yes. The draft General Re-evaluation Report (GRR) and draft Environmental Impact Statement (EIS) were released to the public in November 2010 and detailed our recommendation and its impacts. The public had 45 days (extended to 60 days) to review the draft GRR and EIS and provide comments.
- Following the release of the draft GRR and EIS, we received 2,558 separate comments, which is very typical of a study of this magnitude and complexity. We took time to review the comments, consider the issues raised, and reach decisions based on careful evaluation before completing the final report.
- We released the final General Re-evaluation Report and Final Environmental Impact Statement in April 2012 followed by a 30-day comment public period.

12) Who pays for the harbor expansion?

- The cost to expand the harbor will be shared between the federal government and the State of Georgia with the federal government covering 70 percent of the costs. The State of Georgia will provide the remaining 30 percent.

13) Which federal agencies have approved this project now that you've issued your final report?

- The following agencies agreed to the deepening plan: Department of the Army (represented by the Corps of Engineers); Department of Commerce (NOAA Fisheries Service); Department of the Interior (US Fish & Wildlife Service); and the Environmental Protection Agency (EPA).
- A provision of Water Resources Development Act of 1999, the legislation that originally authorized the project, required that the four federal agencies must approve the project and mitigation plan. This is a unique provision for a civil works project that Congress required to ensure the project adequately mitigates for effects on the environment.

14) When did the four cooperating federal agencies (Departments of the Army, Interior, and Commerce and the EPA) agree on the plan?

- Representatives of the four cooperating federal agencies met regularly throughout the years of this study to ensure all areas of concern received the appropriate examination, especially environmental mitigation. On March

22, 2012, the federal agencies gave their approval to release the final report for public review.

- From the beginning we worked closely with the other three federal cooperating agencies. Congress directed us to agree on a plan.

15) What was determined through the economic portion of the study?

- The Corps is a steward of taxpayer money and must determine which projects are good investments for the nation. It's charged with making the best use of the country's resources.
- The Corps determines engineering feasibility, economic viability, and environmental acceptability; Congress determines which projects the nation invests in.
- We looked at the issues from a national perspective. We considered actions that will increase the net value of the national output of goods and services. In the case of the proposed deepening, we looked at future shipping fleet configurations, projections on trade, and the state of the economy now and projected into the future. At the end of our evaluation, we identified the plan that best benefits the nation from an economic perspective.
- The Savannah District selected the 47-foot dredging depth as being in the best interest to the nation. This depth reasonably maximizes net national economic development benefits. We determined that deepening to 47 feet provides the greatest net benefits to the nation. (Regional economic benefits are not used for project economic justification by the Corps of Engineers since they would not affect the entire nation.) We concluded that 47 feet reached the best balance between enhancing the national economy and mitigating for impacts to the environment.

16) How did you determine the net national economic benefits?

- A deeper shipping channel allows larger and fewer ships to move the same amount of goods at a lower transportation cost. Fewer, larger ships also would lessen congestion in the harbor, according to the GRR. A deeper channel means larger ships can enter and leave with less delay waiting for high tides.
- With regard to the benefits, the basic economic benefit is the reduction in the costs to transport the commodities. This reduction represents a national economic development (NED) gain because when transportation costs are reduced, those dollars are available for productive use elsewhere in the economy. We do not try to estimate where exactly these resources are used; from a NED perspective it would be almost impossible to do so.
- Our reports indicate an estimated net annual economic benefit to the nation of \$174 million for the selected 47-foot depth. This is an increase over our estimate in the draft report. The increase in net annual benefits between the amount estimated in the draft report and in the final report comes from new data on increased fuel costs and a review of new efficiencies in the projected shipping fleet.
- The term "efficiencies" means a savings in transportation costs. Those savings may be passed on to the consumer through lower prices in the goods purchased.
- The Corps of Engineers can only consider national benefits when determining the recommended plan. Other benefits (state or regional) may exist but cannot be considered by the Corps.

17) What are the costs and benefits to the nation to deepen the Savannah Harbor?

- The Corps of Engineers calculated that the nation will receive \$174 million in annual net benefits by deepening the Savannah harbor to 47 feet. The economic study evaluated benefit years 2015 through 2065.
- **[Updated]** At the 47-foot depth, the construction and environmental mitigation costs are \$706 million (approximately) with an annual benefit of \$174 million to the nation. This leads to a benefit-to-cost ratio (BCR) of up to 5.5 to 1. This means for every dollar invested in the project, the nation will receive nearly \$6 in economic benefits from transportation efficiency increases. This is an increase in BCR from earlier estimates. The BCR increase came from new data on increased fuel costs and a review of new efficiencies in the projected shipping fleet.
- Local and regional benefits, which the Corps cannot consider, may exist. These benefits can be considered by the State of Georgia in its funding justification.

18) Will deepening create jobs? If so, how many?

- Based on the amount of money to be spent during the construction phase of the project, we calculated that more than 11,000 1-year jobs nationwide will be created for each year of construction. Of these there will be more than 3,700 bi-state jobs (Georgia and South Carolina) and approximately 2,400 local jobs.
- The Corps of Engineers used a standard formula for calculating job creation based on construction dollars spent. These jobs will not be all construction jobs, but will include those in support of the entire effort. We do not predict the number of permanent jobs that may be created based on the deepening.

19) Why was the economics analysis so complicated?

- As we studied the economics of a possible deepening, we discovered that our standard model no longer fit the changing world of international shipping as it applies at Savannah Harbor. Our earlier standard had a greater mix of bulk cargo while international shipping, especially in Savannah, is heavily comprised of containerized cargo. We also discovered that the shipping industry, international trade routes, and consumer demand has rapidly changed. This all meant we needed to create a new model to predict the impact of deepening at various depths, particularly suited for Savannah. We also had to make some modifications based on new information about the expansion of the Panama Canal.
- We sought input from the Corps' economics experts in navigation at the Institute for Water Resources, plus input from industry experts to evaluate the sophisticated nature of container ship operations. The Institute for Water Resources and industry experts worked together to identify the aspects of container ship operations that impact vessel loading and operating characteristics. We needed this detailed data to evaluate vessel operations under each of the proposed channel deepening alternatives being studied. Further, we revised model inputs to estimate the impact of the Panama Canal expansion on the industry's switch to more efficient vessels.
- Creating this new model took longer than anticipated but was worth the effort in providing more refined data needed for a decision.

20) How are you balancing the environmental and economic issues?

- The Corps of Engineers is charged by Congress to oversee the nation's ports, including the Savannah Harbor. Our studies and recommendations considered the economic needs of the nation plus environmental protection and mitigation. We conducted the studies to ensure we can meet both goals. Mitigating for environmental impacts will be a significant portion of the total project cost.
- Mitigation plans call for opening additional habitat for the endangered short-nose sturgeon upstream by building a large fish bypass around the New Savannah Bluff Lock & Dam. We plan to add special devices to inject oxygen into the estuary to replace what may be impacted as a result of deepening efforts. We also plan a full-scale stocking program for young striped bass to mitigate for loss of some spawning habitat.
- We plan to purchase more than 2,200 acres of freshwater marsh to add to the Savannah National Wildlife Refuge to mitigate for the anticipated change of 223 acres of freshwater tidal wetlands into brackish marsh. We also plan to restore 28 acres of brackish marsh formerly used as a dredged material disposal site.

21) What will be the impact on Savannah's water?

- Our studies indicate that impacts to the Floridan Aquifer will be *insignificant* at all depth alternatives studied. The "confining layer" of ancient material beneath the riverbed that protects the aquifer varies from about 40 feet thick near Tybee Island to more than 100 feet thick along River Street in downtown Savannah, even after deepening. The concerns to the aquifer come from heavy usage, not from deepening.
- We also studied the impact of deepening on the Savannah water intakes on Abercorn Creek, upstream from the harbor, to determine the impact of chlorides. The plan provides for the construction of a freshwater impoundment that will provide a temporary supply of freshwater for use on extremely rare days when low river flow and high tides may push salt water too far upstream, potentially affecting water uptakes at Abercorn Creek. The impoundment will allow the City of Savannah to continue to provide very low chloride water. The impoundment will primarily benefit industrial users of the water during these rare occasions.
- Even without the impoundment, Savannah's water would remain well within clean water standards. The impoundment ensures no change to the high quality of water provided by the City of Savannah.

22) Is the material currently dredged from beneath the river safe to place in the disposal area and will material dredged from the deepening also be safe?

- The material dredged from the harbor during routine dredging washes down from upstream or is pushed into the river by tides. The dredged material is composed of sands and other materials in varying amounts depending on which span of the channel is being dredged at any given time. The channel near the ocean tends to have more sand, while the channel and harbor turning basin tend to have other materials. We pump the material into the disposal site and allow the solid material to settle out of the water. Once the water is clear enough we discharge it either into the Wright River or the Savannah River. We then allow the disposal area to dry during which we manage the area for wildlife habitat and to prepare it for future dredge disposal.
- **[Updated]** Cadmium, a naturally occurring heavy metal, is found in some locations in the undisturbed material beneath the Savannah River that would need to be removed to deepen the harbor. At the levels found in the clay soil, it only poses a danger to small wildlife. We plan to place the sediment containing cadmium into a confined area and cover it with at least two feet of clean material to prevent exposure to wildlife to that material in the future. In addition, if this becomes the site of a proposed port in Jasper County, S.C., the cadmium, already covered by clean sediment material, would be further covered with concrete and asphalt.
- This cadmium beneath the Savannah River dates from the Miocene Epoch and is at least five million years old. Contrary to some published reports, this cadmium is not the byproduct of industrial use or electrical generation. The cadmium in this Miocene layer is molecularly bound to other material in the layer.

23) Will the Savannah National Wildlife Refuge lose a significant portion of freshwater habitat?

- The 47-foot plan includes several modifications to tidal creeks in the upper harbor. These changes will re-direct the flow of saltwater to significantly reduce the amount of impacts to freshwater marsh, which was determined the highest priority wetland natural resource in the Savannah River Basin (determined in 2003 by the Wetlands Interagency Coordination Team, which included representatives from Georgia, South Carolina, USEPA, USFWS and NOAA Fisheries.) The flow re-routing plan essentially will direct more freshwater into the Back River area on the South Carolina side of the river.
- With flow re-routing, the project will only affect 223 acres of freshwater wetland. This impact will be mitigated with the acquisition and preservation of 2,245 acres of freshwater marsh for the Savannah National Wildlife Refuge at a cost of \$12.4 million. The USFWS previously identified the lands to be acquired as valuable additions to the refuge.
- Flow re-routing would reduce salinity in 740 acres of salt marsh, converting it to brackish marsh (essentially making it less salty, but not exceeding four parts per thousand of salinity). Studies show the wetlands will retain the same functional value, thus constituting “no net loss” of wetlands.
- The 47-foot plan would excavate 16 acres of tidal brackish marsh to remove Back River tide gates and deepen the Kings Island Turning Basin. To mitigate for those impacts, 28 acres of brackish marsh will be restored on Onslow Island, a former dredged material disposal site in the upper portion of the harbor, for \$17.9 million.

24) What impacts will the deepening have on dissolved oxygen in the Savannah River?

- Harbor deepening and saltwater intrusion lead to a decrease in the already low dissolved oxygen content in the lower Savannah River. During hot summer months, dissolved oxygen drops below the state standards, which are set to protect fish and shellfish in the estuary. We conducted extensive analyses to identify the effects of the project and evaluate possible mitigation. Those analyses identified oxygen injection in several places in the lower Savannah River as the best solution. Although we are not allowed to improve the existing low dissolved oxygen levels under this project, we are permitted to offset its impacts so that the dissolved oxygen would not be any lower as a result of a harbor deepening.
- We plan to use special injection devices to oxygenate river water which will then be mixed back into the river. This technology has been used successfully elsewhere. Construction and placement of the devices is included in construction costs. Operation and maintenance of the oxygen injection system will be part of the on-going, routine costs of maintaining the harbor.

25) How will use of an oxygen injection system improve dissolved oxygen in the river as a result of deepening?

- **[Updated]** The deepening project includes the installation, operation and maintenance of 12 oxygen injection devices, which will inject dissolved oxygen (DO) into the river to maintain oxygen levels at their present levels during hot, dry months, when oxygen levels typically drop. Two of the 12 devices will serve as back-up units. The total cost for the DO injection system is estimated at \$72.2 million, with annual operations and maintenance costs at \$1.2 million. Tests of conducted in the harbor of the oxygen injection devices showed them to be effective in adding oxygen to the water. Modeling performed for SHEP indicates that the devices should increase DO levels above the existing conditions in well over 90 percent of the estuary. In general the devices work by pumping water from the river and mixing it with oxygen pulled from the ambient air. The oxygen/water mixture is then put back into the river, where it mixes with the water column and is distributed by tidal currents.
- **[New]** Because the pure oxygen dissolves into the water inside the devices, no bubbles will be present where the water returns to the river. Calling the devices “bubblers” as some have done, is inaccurate.

26) How would the harbor deepening affect the endangered shortnose sturgeon and other marine species?

- The harbor deepening will adversely impact habitat for one endangered species, the Shortnose sturgeon. Harbor deepening would allow additional saltwater to enter the harbor and travel further upstream into areas currently used by this species. The increased salinity would reduce the suitability of some of these areas. To compensate for those impacts, the project includes construction of a large fish passageway around the first dam up the Savannah River (New Savannah Bluff Lock & Dam). This passage would restore access to historical spawning grounds for the shortnose sturgeon. The gates at the dam will remain closed at flows less than 9,000 cubic feet per second (cfs) to allow 100 percent of the river flow to pass through the off-channel rock ramp. The design was coordinated closely with NOAA Fisheries with an estimated cost of \$30.2 million.

27) What will the Corps of Engineers do to make sure environmental mitigation projects are working as intended throughout construction and post-construction?

- The final report identifies a post-construction monitoring period of 10 years (increased from 5 years in the draft report) at the request of USEPA, USFWS, and NOAA Fisheries. This period provides the Corps of Engineers increased time and resources to monitor the various mitigation features and make adjustments as necessary. The cost for this 10-year monitoring period is estimated at \$61.4 million.

28) The environmental impacts will occur locally; why should we support a project that focuses on national benefits?

- We were directed by Congress to determine deepening benefits nationally. Since each American taxpayer will contribute to any deepening, each taxpayer has a stake in any deepening, including environmental mitigations, so we logically would focus on national benefits.

29) Have you engineered a project that is more than is needed to achieve the intended result? Can you scale down the project and achieve the needed navigation?

- We recommended a plan that will bring the greatest net annual benefit to the nation. We factored all three components – engineering, economics, and environmental – into our recommendation.

30) How will the longer, wider ships capable of transiting the expanded Panama Canal travel safely into and out of the Savannah Harbor?

- We used an existing ship called the Susan Maersk as our design vessel. It measures 141 feet wide by 1,158 feet long. It can carry 8,200 20-foot equivalent units (TEUs), the international standard for shipping containers. Ships even larger than the Susan Maersk, such as the GMA Figaro, already arrive safely at the Port of Savannah today, but are light-loaded (not filled to weight capacity) and face tide restrictions.
- We designed the new channel and its navigation features using the specifications of the future shipping fleet, expected to call at Savannah after the Savannah Harbor Expansion Project.
- We designed a wider and deeper turning basin to accommodate the larger ships.

- We designed two reaches of the channel and three critical bends to allow wider turns to increase safety clearances.

31) How have you involved the Savannah Harbor Pilots in the design you propose for the expanded harbor?

- From the beginning, the Savannah Harbor Pilots Association members have been involved in planning the proposed expansion. They advised us on what should be improved in the current shipping channel to guide larger vessels into and out of the harbor.
- Using the world's state-of-the-art deep draft navigation computer simulators in Vicksburg, Miss., pilots from Savannah tested our channel design with the future vessel fleet using their intimate knowledge of the waterway. They "sailed" simulations in and out of the harbor under a variety of conditions. The information the pilots provided proved key in assuring our design as adequate and safe.
- The Savannah Harbor pilots have already guided large post Panamax vessels – those capable of extracting the maximum benefit from the canal's expansion – in and out of the Savannah Harbor. These ships required "light-loading" (not filled to weight capacity) and faced tide restrictions with the current channel depth, but have already safely entered and exited the port.

32) How will the proposed deepening affect the shoreline of the Savannah River, especially along River Street, Savannah's big tourist attraction?

- The proposed design would not widen the navigation channel along River Street, but would instead extend the existing slide slopes down further, resulting in a deeper but narrower channel. The Corps also conducted a bank erosion analysis that focused on locations where vessel waves could be causing shoreline erosion. The analysis found that the larger vessels would cause no more erosion than is presently occurring. The Savannah Harbor Pilots move vessels past River Street at a slow speed which does not generate waves that could erode the shore.

33) How are you taking into the account the City of Tybee Island's concerns about impacts to the beach from the channel?

- We previously determined that the ship channel, as it has existed since the mid-1970s, contributes between 70-80 percent of the reduction in the coastal littoral sediment supply volume to the Tybee shelf and shoreline. This sediment is composed of sands, silts and clays. Further deepening will not change those existing conditions.
- Dredged material was never proposed for the beach re-nourishment. Instead suitable material was to be used for near-shore disposal — about one mile from the shore — in order to help prevent erosion of the beach. We developed our initial proposal in coordination with officials from Tybee Island and the Georgia Department of Natural Resources. However, it was always a proposal and on Jan. 20, 2011, the Tybee Council voted to reject the near-shore placement of dredged material.
- The Corps will instead use a pre-designated off-shore disposal area for material dredged from the outer channel. We had already planned to place much of the outer channel material in this location.

34) What consideration did you give to just deepening to the site of the proposed Jasper Ocean Terminal? Why not just deepen to that point?

- We studied alternate port sites for Savannah, including a location that's been proposed for a port in Jasper. None had the level of completeness, effectiveness, efficiency, and acceptability of deepening to the Garden City Port.
- No port currently exists on the South Carolina side of the Savannah River. We can't evaluate projects that do not exist.
- Should a port be built in Jasper County in the future, it will directly benefit from any deepening constructed on the Savannah River. The currently proposed site has an elevation too low for a port. Filling the site with dredged material from the deepening would preclude the need to bring fill material to the site from a much further distance. In addition, a deepening to the Garden City port would place a deeper channel directly adjacent to the proposed Jasper port.
- The states of South Carolina and Georgia have already formed a joint agency to develop a port in Jasper County, which would complement Savannah's Garden City Terminal. Should these plans continue, the first phase of the

project could be scheduled to open no earlier than 2025.

35) What direction did Congress give the Corps regarding the perpetual easements the Corps holds for the federal government at the proposed site of the Jasper Ocean Terminal?

- On behalf of the federal government, the Corps of Engineers holds a perpetual easement to land along the Savannah River in Jasper County, S.C., for disposal of material dredged from the river. These essential sites include the area proposed for a new port.
- Congress directed the Corps of Engineers to study the impact of releasing the easements on the current federal harbor project. So far, Congress has not appropriated funds to conduct the study.

36) What would be the differences in environmental impact if a Jasper County facility were constructed capable of taking ships requiring greater depth of water?

- There have been no studies on the impact to the environment of building all the facilities, roads, railroads, and other infrastructure for a port in Jasper County. In addition, we have not studied the detailed impacts of the loss of a major dredge disposal site where the Jasper port might be built.

37) Why not deepen other ports on the East Coast instead of Savannah?

- The Corps of Engineers was directed by Congress to study deepening the Savannah harbor, but we addressed alternative ports as part of the process. Our studies show that future shipping growth will require deepening Savannah and Charleston harbors, as well as creating a port in Jasper County, S.C. In fact, all major South Atlantic ports will need deepening or improvements to accommodate projected cargo growth from 2005 to 2050. No single port could accommodate all the growth in container volume expected in the region.
- We conducted a Regional Port Analysis to study current and projected port capacities, demands for growth, and environmental impacts for major South Atlantic ports. This analysis included the ports of: Charleston, S.C., Norfolk, Va., Wilmington, N.C., Savannah, Ga., Jacksonville, Fla., and the proposed Jasper Ocean Terminal site in Jasper County, S.C.
- We also conducted an alternative sites study that examined eight different locations along the Savannah River as potential alternative sites for deepening. This study included four sites in South Carolina and four sites in Georgia. As part of this study, the Corps did a thorough analysis on the Jasper Ocean Terminal proposed site.
- A third study, a Multi-Port Analysis, examined highway mileage and shipping cost efficiencies on the service lands and roads surrounding the five major South Atlantic ports (Charleston, S.C., Norfolk, Va., Wilmington, N.C., Savannah, Ga., Jacksonville, Fla.) This study concluded that the proposed deepening of the Savannah harbor would not take business from another port, because the shipping cost efficiencies would not outweigh the additional landside transportation costs.
- Our studies determined that expansion of any South Atlantic port or creation of a port along the Savannah River would cause environmental impacts, and that no one port is a feasible alternative to deepening the Savannah harbor at this time. It also concluded that building a Jasper Ocean Terminal in lieu of improving Savannah's harbor is not a feasible alternative, considering the tremendous cost associated with the project (estimated at \$4 billion), environmental impacts, and timing. Jasper does not exist at present and cannot be constructed in time to meet the growth in demand Savannah and other South Atlantic ports are currently facing.

38) Why has this process taken so long?

- **[Updated]** During the August 2008 internal Corps review, we discovered the need for additional analyses for certain sections of the study, including economics, engineering and environmental. Each of these major study components affects the others. If the output of one changes, that change alters something in the analyses contained in the other two. These revisions have been very time consuming but are vital to this report's credibility as we entered into reviews by independent panels – both inside and outside of the Corps of Engineers.
- All of this work was conducted in concert with the agencies that cooperated in the preparation of the Environmental Impact Statement. These include the Georgia Ports Authority (GPA), the US Fish and Wildlife Service, NOAA Fisheries and the Environmental Protection Agency. The studies that were performed and the impact analyses were also conducted in cooperation with the state natural resource agencies.
- After the release of the draft GRR and EIS, we received 2,558 comments, a large response but typical for a study

of this size and complexity.

39) What external agency has reviewed your work to ensure its accuracy?

- The report, including the environmental impact statement, was reviewed both by Corps experts outside the Savannah District and by experts outside the Corps to ensure a thorough examination of our research. Battelle Memorial Institute conducted the independent external peer review. The institute, made up of leading technical experts in various fields, is the world's largest independent research and development organization. Because of this extensive internal and external review, we anticipated and planned for the most likely impacts.
- A project of this magnitude and complexity must be examined carefully and deliberately. We must ensure that decisions made contribute to the national economic development and protect the environment without overly sacrificial costs to the taxpayers. In the end we must enhance the national economy as well as protect the environment.

40) How long will the project take to construct?

- **[Updated]** Since the signing of the Record of Decision (ROD) on Oct. 26, 2012, the Corps has positioned itself to be able to proceed with the construction phase of the project as Congress and the non-federal sponsor provide the needed funding. Actual dredging will take at least 62 months to complete.

41) When will construction begin?

- **[Updated]** The first construction contract could begin before the close 2014 if we are able to sign a Project Partnership Agreement (PPA) with the state of Georgia by the end of August. That document would define how the costs to build the project would be shared and allow us to use state funds beyond their required share at the beginning of the construction until federal appropriations are provided.

42) What parts of the project will be constructed first?

- The Corps has begun the pre-construction environmental monitoring. That monitoring will serve as the "baseline" for monitoring during the construction and for the post-construction monitoring.
- The initial construction period will focus on real estate acquisition, removal of the Civil War ironclad CSS Georgia, installation of the dissolved oxygen injection system, construction of the water storage impoundment, and deepening the entrance channel. The plan requires all mitigation to be complete before or concurrent with the completion of the channel deepening.

43) What is South Carolina's role in the Savannah Harbor deepening?

- The Corps submitted its application for a Section 401 Water Quality Certification and a Coastal Zone Management Consistency Determination (CZM) to the South Carolina Department of Health and Environmental Control (SC DHEC) with the publication of the Draft Savannah Harbor Expansion Project (SHEP) Environmental Impact Statement (EIS) in November 2010. The SC DHEC issued both certifications almost a year later shortly before a legal deadline. After entering into the Settlement Agreement in May 2013, SC DHEC issued a new Section 401 Water Quality Certification and a Coastal Zone Management Consistency Determination for SHEP in June 2013.
- The Corps' application complied with its standard practices and was consistent with national environmental laws, which require the Corps to comply with state water quality certification and CZM whenever such compliance is practical.

44) Agencies and groups in South Carolina, including the legislature, have filed various actions to object to the deepening. What do you intend to do about these actions?

- **[Updated]** There are no current actions delaying the continuation of the Savannah Harbor Expansion Project.

45) What will you do if court and agency decisions in South Carolina are unfavorable to the deepening plans?

- **[Updated]** We cannot speculate on actions that have not been taken. Until then we are researching all available options to further the objectives of the Savannah Harbor Expansion Project.

46) Does the Corps of Engineers actually need a water quality certification from each of the states along the Savannah River?

- Under the Clean Water Act and Corps regulations, we routinely seek a water quality certification from states affected by our actions – this is true even though the Corps is not a statutory Section 404 Clean Water Act permit applicant.
- If certification is denied, the Clean Water Act provides exemptions for federal projects in such circumstances where:
 - Information on the water quality effects of the project is included in an Environmental Impact Statement for the project;
 - The EIS is submitted to Congress before the actual discharge of dredged material in connection with the construction of the project,
 - And a project authorization or an appropriation of funds for construction has been received.
- There is also an exemption when the authority of the Secretary of the Army to maintain navigation is impaired by a state's action.

47) What are the important future milestone dates for the project?

- We released the Final Report to the public on April 11, 2012, followed by a 30-day comment period which began when we published a notice in the Federal Register on April 20. The 30 days allowed for public and agency review of the proposed agency decision. Assistant Secretary of the Army JoEllen Darcy signed the Record of Decision (ROD) Oct. 26, 2012. The Record of Decision documents the Corps' final National Environmental Policy Act (NEPA) decisions and the basis for those decisions.
- **[Updated]** Congress rectified the original cost authorization to the current estimated costs with passage of the Water Resources Reform and Development Act of 2014.
- **[Updated]** With the passage of the Water Resources Reform and Development Act of 2014 we can begin formal negotiations toward a partnership agreement with the non-federal sponsor to begin construction work possibly as early late 2014.

48) How can I review the Corps' study?

- View the reports at <http://www.sas.usace.army.mil/Missions/CivilWorks/SavannahHarborExpansion.aspx>

U.S. ARMY CORPS OF ENGINEERS – SAVANNAH DISTRICT

PO BOX 889, SAVANNAH, GEORGIA 31402-0889

WWW.SAS.USACE.ARMY.MIL

On Twitter at <http://twitter.com/SavannahCorps>

On Facebook at <http://www.facebook.com/savannahcorps>

On YouTube at <http://www.youtube.com/SavannahCorps>

On Flickr at: <http://www.flickr.com/photos/SavannahCorps>